

DEPARTMENT OF COMMERCE
WASHINGTON, D. C.

MONTHLY NEWS BULLETIN

of

COMMERCIAL STANDARDS GROUP, BUREAU OF STANDARDS

(This Includes: Division of Simplified Practice; Division of Specifications; Commercial Standards Unit: American Marine Standards Committee.)

Address Inquiries to Commercial Standards,

March 15, 1928.

Room 316 Commerce Building, Washington,

No. 36.

TABLE OF CONTENTS

| | <u>Paragraph</u> | | <u>Paragraph</u> |
|--|------------------|---|------------------|
| Activities of Commercial Standards Group | 26 | Oil Industry Standardizes..... | 20 |
| A New Business Decade | 3 | Production Obstacles of 1928.... | 14 |
| Army Men Report Too Many Tire Sizes | 2 | Putting Simplification to Work... | 1 |
| Boosts Simplified Checks | 17 | Railway Association Reports on Standardization..... | 25 |
| Drill Chucks Standardized | 22 | Rationalization in Germany.... | 22 |
| Endorses Simplified Invoice | 11 | Short Length Lumber Saves 35 Per Cent..... | 12 |
| English Writer Approves of Simplified Practice | 6 | Simplification of Lamps..... | 9 |
| Further Waste Elimination Needed | 8 | Skilful Management Needed..... | 16 |
| Great Britain To Simplify Lamps | 10 | Specifies Simplified Practice Recommendations..... | 5 |
| Lumber Survey in North Carolina | 4 | Technique of Business Management | 7 |
| Magazine Standardized | 13 | Tool Makers Discuss Need for Standardization..... | 19 |
| Need Coordination Between Production and Sales | 15 | Urges Simplified Practice..... | 23 |
| Need Simplification | 18 | War on Waste..... | 24 |

1. PUTTING SIMPLIFICATION TO WORK

Edwin W. Ely, Acting Chief, Division of Simplified Practice

All engineers and designers do not concur in the belief that complete standardization would be an ideal condition in the mechanical industries. They are more nearly of one mind, however, in agreeing that there is a practicable middle ground, where all interests could meet without sacrificing individuality of design.

They believe that such harmony of thought would bring about elimination of those sizes and dimensions of machines and machine parts which can be spared. Such action would not imply that the industry feels obliged to effect an arbitrary reduction merely for the sake of struggling along with less than its former variety.

The first step in machine design is usually the calculation of the mechanical advantage of the proposed assembly, from a strictly technical standpoint. At this stage the cost of its manufacture, and the price which will be exacted for its ownership and maintenance, are secondary considerations. Ultimate efficiency, however, must be expressed in dollars and cents rather than in technical excellence. Consistent economy, therefore, bids us temper our respect for mechanical advantage with a due regard for commercial advantage.

Many executives and engineers in the mechanical industries now appreciate that it is practicable to apply the principles of simplification, familiar in individual operations, to whole industries. This group action solves problems and effects benefits impossible through isolated or sporadic effort.

By putting simplification to work, manufacturers, distributors and users of machines secure a very real commercial advantage over certain resistances to the successful conduct of business in an industrial era that is becoming more and more complex.

2. **ARMY MEN REPORT TOO MANY TIRE SIZES.** Army motor transport officials visited the automobile show in New York to inspect the very latest advances in mechanical transportation. While the unprecedented variety of brilliant colors, the style and grace of body, the quietness of the motor, and the improved riding qualities did not go unnoticed, the army men were quick to express unfavorable comment regarding the great variety of tire sizes shown. Each year has seen manufacturers of motor cars getting farther and farther away from standardization. Wheels seem to be getting smaller and smaller with each new year's models, and soon no tire dealer can hope to carry in stock the variety of sizes required as replacements.

In discussing the subject, The Speedometer, official camp paper at Camp Normoyle, Texas, said that the Army must eventually purchase these new vehicles for military use and that the tire situation is already causing concern in this quarter.

3. **A NEW BUSINESS DECADE.** Loring Pratt, Editor of Institutional Merchandising, in reporting an interview with Roger W. Babson, quotes him as saying that we are entering on a period of generally settled conditions, satisfactory employment, and sane prosperity. In some parts of the country the people are enjoying more prosperity now than they have known for a long time.

"In general", said Mr. Babson, "we are entering a period of stabilization and standardization. Post-war adjustments have been going on for ten years. Now things are pretty well shaken down and readjusted. New normals have been established. The froth of super-service and de luxe this and that will be passed up by most people who want reasonable service for their money."

According to Mr. Babson the public is going to consider price and sound values for the next ten years rather than be interested in unnecessary and expensive frills of super-service.

4. **LUMBER SURVEY IN NORTH CAROLINA.** As another step in the elimination of waste in industry, a survey of non-utilized wood, available as raw material for by-products industries, will be undertaken in North Carolina by the National Committee on Wood Utilization, of the Department of Commerce. A similar survey of Virginia is now nearly completed. This series of State surveys, planned to eventually cover the entire country, is part of the Committee's program of closer use of wood to enable profitable commercial reforestation.
5. **SPECIFIES SIMPLIFIED PRACTICE RECOMMENDATION.** In making changes in its specifications, The American Petroleum Institute, Division of Standardization, included the notation that structural lumber used for reinforcing legs in A.P.I. steel derricks shall be new and shall conform to the requirements of the American Lumber Standards for Select or Dense Select Grades, as given in Simplified Practice Recommendation No. 16.
6. **ENGLISH WRITER APPROVES OF SIMPLIFIED PRACTICE.** Hartley Withers, prominent British economist, in writing on the subject of standardization in The Economist, makes the following observation regarding the simplification movement in the United States: "As usual in 'big business' questions, we have to look to the United States to see what is happening, and there we find the government, under the energetic influence

of Mr. Hoover, leading the way in inquiry and suggestion and leaving industry to work the problem out." Further in his article, in discussing the simplified practice recommendations that have been accepted, Mr. Withers said: "Most of us will agree that 1351 different kinds of files and rasps were unnecessary and that their reduction, by agreement, to 496 leaves the consumer still with a range of choice that is ample; and the same may be said of shovels, spades, and scoops, which have been reduced from 5136 to 2178 and might perhaps be reduced still further without hurting anybody. This shows how much may be done in the direction of standardization and cheapening before the problem becomes acute for the consumer."

7. **TECHNIQUE OF BUSINESS MANAGEMENT.** In the Executives' Bulletin, John F. Sherman, President of Sherman Corporation, (Engineers) discusses the new technique of business management, making the following observation: "A fundamental problem in business today is how to coordinate, direct and control constituent factors so that they will yield results of maximum social and economic benefit. In this age of small orders and consumer whims, the primary requisite of any new technique of business management is adaptability. The faster movement of goods from production into consumption necessitates study of inventory and capital turnover, in order to get maximum turnover consistent with nature of the business. Narrow profits have to be met by concentrating attention on multiplication of present profit by more rapid turnover, which means taking a greater number of little profits, with shorter intervals between. Management technique yields results only as scientific engineering viewpoint, and method, impregnated with common sense and reinforced by experience, are given scope. It demands new ideas, economy, direct-line methods, both in production and distribution."
8. **FURTHER WASTE ELIMINATION NEEDED.** Keener competition may result in further price reductions, although general commodity prices are now at the lowest level in several years, according to the Weekly Survey Letter of the Peirce School of Business Administration, which says that just two things will enable manufacturers to maintain present wage scales and reduce prices; increased production and further waste elimination.
9. **SIMPLIFICATION OF LAMPS.** "Incandescent lamps are one product which can, within limits, be standardized to the benefit of everyone concerned," says the Railway Age. According to this magazine standardizing and reducing the number of types to a minimum means a saving in the cost of manufacturing and of handling lamps in the stores department.
10. **GREAT BRITAIN TO SIMPLIFY LAMPS.** Standardization in street and highway lighting is proposed in Great Britain, according to the Electrical World, which reports that in order to eliminate the present chaotic conditions a national agency is suggested which will specify types and kinds of lighting for the country as a whole. This plan is being advocated on the ground that safety considerations make it imperative to call a halt on installations which reflect individual opinions and which do not conform to other installations.
11. **ENDORSES SIMPLIFIED INVOICE.** Approval of the Simplified Invoice has been given by the Committee on Purchases and Stores, which recommended its endorsement by the American Electric Railway Engineering Association. In its report the committee said that the purchasing and accounting departments should favor the general adoption of this invoice by suppliers, because, by providing definite places for the insertion of all the essential data required by any buyer, it simplifies the work of handling, checking, and auditing invoices; that railway purchasing agents could further the use of the form to a great extent by requesting sellers to render invoices on the Simplified Invoice.

Among the recently received acceptances are those of the American Institute of Steel Construction, Inc.; American Paint and Varnish Manufacturers Association, Inc.; International Railway Fuel Association; Manufacturers Association of Washington; National Machine Tool Builders Association; National Retail Furniture Association; American Brake Shoe and Foundry Company of California; The Bishop and Babcock Sales Company; Crossett Lumber Company; Gray and Danielson Manufacturing Company; Haws Sanitary Drinking Faucet Company; Pacific Wire Rope Company; National Boiler Washing Company; National Drawn Steel Company; Southern Locking Association; Stockton Fire Brick Company; Frank W. Sutton and Associates, Ltd., Construction Engineers; Synthetic Iron Color Company; Union Gas Engine Company; Union Switch and Signal Company; Westinghouse Union Battery Company; Wildberg Brothers; and the Wardway Paint Works.

Not only has the Purchasing Agents Association endorsed the Simplified Invoice, but it has urged each member to give his active assistance in developing adherence to the form. The March meeting of the various chapters of the association, will be known as "Simplified Invoice Night". Speakers on the standardization of office systems, will compare the present loose-leaf system with the old heavy cumbersome bound books and will show how the Simplified Invoice is the furtherance of the idea behind the loose-leaf method.

12. **SHORT LENGTH LUMBER SAVES 35%.** Utilization of short lengths of lumber which heretofore have been considered waste material, recently netted the War Department a saving of 35 per cent on a purchase of \$1,700 worth of crating material. A saving of \$14 per thousand board feet was made possible by the use of lengths under 8 feet, in place of sixteen foot pieces.
13. **MAGAZINES STANDARDIZED.** During the past two years more than twenty publications, all members of the Associated Business Papers, Inc., have adopted the standard type page size, for their respective publication. The standard page is 7 by 10 inches. recently the Iron Age announced that it had adopted the standard type page size, but would not change the over-all size of the publication until about July 1, 1928, when it would adopt the size 9 by 12 inches.
14. **PRODUCTION OBSTACLES OF 1928.** The millstones of competition grind, but their grinding is a challenge to management to prove itself worthy of its right to leadership, according to Magnus W. Alexander, in Factory. In his article, Mr. Alexander, who is President of the National Industrial Conference Board, Inc., says that our present industrial revolution and reorganization is management's answer. This renaissance is largely due to keen competition which is forcing business men everywhere to sense the realities of our economic situation. This competition, which Mr. Alexander says is the despair of shortsighted industrialists, will cause rejoicing in the long run.

Obsolete plants and equipment, inadequately trained labor supply, and ignorance of fundamental economic principles will take their toll from tomorrow's balance sheets. Competition is giving rise to carefully watched production plans and progressive, as well as aggressive, selling policies.
15. **NEED COORDINATION BETWEEN PRODUCTION AND SALES.** In an article in the Magazine of Business entitled "Must We Limit Production" Thomas C. Sheehan, President of Durham Duplex Razor Company says that the problem confronting business men is not merely how to operate profitably in face of falling prices, but how to sell an ever-increasing production at a profit, while prices are fluctuating and cost of selling is going up. Management now fully realizes that production is not an end in itself.

When lanes of distribution are congested with goods, it requires much more selling effort to move surplus. This augmented selling effort cuts in heavily on producer's share of consumer's dollar. Solution lies neither in lowering our standard of production efficiency nor in speeding up the sales end of business, but in establishing a better correlation between these two functions, according to Mr. Sheehan.

16. **SKILFUL MANAGEMENT NEEDED.** Competent management is production's most powerful ally, and the company which today manufactures most economically and makes satisfactory margin of profit will tomorrow turn even greater volume into even larger profits, while in the less efficient company actual losses will replace small profits, said Edward Eagle Brown, Vice President of the First National Bank of Chicago, in his article "Production's Part in Meeting Competition", which appeared in *Factory*. According to this writer, the downfall of many manufacturers is traceable to the erection of a plant which can produce goods cheaply in time of brisk demand but in which costs are prohibitive when volume falls away. Flexibility that permits of economical production, even in periods of business recession; in other words, control of costs regardless of volume, is best insurance against hard times. He further observed that, assuming skilful management, the four major production approaches to the problem of meeting current competition are: Careful purchasing, efficient mechanical handling, simplification and standardization, and cost control through budgeting. Concluding, Mr. Brown said that these problems call for judgment, knowledge of markets, sense of values, and courage.
17. **BOOSTS SIMPLIFIED CHECK.** O. Howard Wolfe, Cashier of the Philadelphia Girard National Bank, and President of the A.B.A. Clearing House Section, is a firm believer in the simplified check, developed under auspices of the Division of Simplified Practice. In a recent report in *The American Bankers Association Journal*, he said: "In the check standardization movement we have secured very satisfactory results through 'direct action' methods. Our Transit Department has standing instructions to show us any particularly 'bad check', especially those which are ambiguous as to the place of payment. In each case we write a friendly letter to an officer of the offending bank, reminding him of the country-wide effort now being made to standardize check forms, and calling the check in question to his attention, suggesting that he bring the matter to the attention of his customer, so that when the next check book is prepared it will be along the standardized lines. We have never received an unfavorable reply, and we believe that if someone in each of the larger banks of the country would undertake a similar method, the desired results would be accomplished very quickly."
18. **NEED SIMPLIFICATION.** Fenimore Johnson, Vice President of the Victor Talking Machine Company, in his article in *Factory* on "Standardize - Forecasts Costs" says: "Standardization has become important to us by the introduction of a new product, which was necessarily manufactured in variety to determine public taste. Our next step is to reduce the number of models, to gain greater manufacturing economies."

According to Mr. Johnson, forecasting costs is the other major problem. He says: "It is difficult to plan advertising and selling expenditures unless costs are accurately forecast. As it is customary to plan these expenditures well in advance, we must know well in advance what our goods will cost."

19. **TOOL MAKERS DISCUSS NEED FOR STANDARDIZATION.** In many cases buyers and users are instrumental in bringing about standardization and simplification of apparatus as an aid in solving their practical problems of construction and operation, according to the *Electrical World*. Lack of uniformity in the mounting dimensions of the

electric motors built by the various manufacturers has often been pointed out by the manufacturers and users of machine tools as a trouble and expense.

Non-uniformity of mounting dimensions creates difficulties in installation and maintenance. A series of standard dimensions already have been worked out to apply to the special motors generally used in steel mills for operating various auxiliaries, and the dimensions have been accepted by the manufacturers of these motors.

20. OIL INDUSTRY STANDARDIZES. Tremendous progress has been made toward standardizing equipment in the oil industry, writes Edgar Pew, Vice President of the Sun Oil Company, in The Oil and Gas Journal. He points out that standard threading has been established for every important connection used in the oil business. In addition, the industry has standardized the gauges that are used to check these threads and has broadcast the information, making it available to manufacturers and users alike, so that the former can make their threaded connections and taper joints interchangeable.

21. DRILL CHUCKS STANDARDIZED. As illustrating the advantages of standardization and simplification of machine tools, Machinery cites the action of a prominent manufacturing concern, producing drill chucks. This company has replaced the 67 styles formerly listed by 36, 11 of which apply to a new model. Therefore, 25 sizes have taken the place of the 67 formerly listed, and every requirement filled by the former line is taken care of by the present standardized equipment. The fact that this change has been well received indicates the general cooperative attitude toward this kind of waste-elimination work.

22. RATIONALIZATION IN GERMANY. In discussing Rationalization in Germany, the S.A.E. Journal says that Germany has made tremendous progress industrially, and against heavy handicaps. She is, however, hampered by conditions that make further progress difficult and slow. The word "Rationalization" - old in philosophical discussions - is newly applied in Germany to denote the many methods by which production costs can be lowered. It includes standardization, simplification of varieties, waste reduction, scientific management, and the replacement of hand labor by machinery, as well as the consolidation of corporations with a view of securing plant specialization, the closing of uneconomic production units, reduction of overhead, and effecting economy in selling.

Up to January 1, 1927 approval had been given to 1950 standards in Germany, embracing those of general application, such as for papers, screws, rivets, pipe threads, pipe, and the like, and standards covering specific fields. Some of the fields are welding, building materials and building parts, such as door and window sash, mining equipment, railroad cars and locomotives, electrical equipment, steam boilers, foundry equipment, wood-working machinery, refrigerating machines, automobiles, farm machinery, machine tools, ship building, typewriters, textiles, and textile machinery.

Standardization work is well known in Germany, and has the enthusiastic support of the engineers as well as the executives of industry.

23. URGES SIMPLIFIED PRACTICE. Many companies have just completed their annual inventories, according to the Abrasive Industry which says that now is a good time to study the possibilities for their reduction through simplification.

The savings through release of otherwise idle inventory investment are usually great enough to make such study very profitable. The ideal situation exists when all the inventory is in process or in transit, - in other words, on the move. Simplification affords an easy approach to this ideal, for it is based on the elimination of excessive or superfluous variety, the chief source of idle investment and heavy costs of inventory maintenance.

Abrasive Industry says: "If you cannot apply simplification to things you sell, then why not apply it to things you buy?"

24. WAR ON WASTE. The "War on Waste" is a new development in economic operation. A full week was recently given over to a campaign against waste by the Newport News Shipbuilding and Dry Dock Company. The result, as told by Homer L. Ferguson, President and General Manager of the Company, in Manufacturing Industries was a surprising number of suggestions from the workers, and a new attitude toward economy. Tremendous latent energies for cost reduction were brought into action.

The campaign was initiated by the general joint committee operating under the employees' representation plan of the company. This committee gave unqualified endorsement to the resolution submitted by the waste week conference committee. The resolution read: "Whereas, that arch-enemy of industrial prosperity and peace, Waste, cuts down profits, increases losses, throws good men out of employment, and retards progress, we the general joint committee of 56 members, representing both the men and the management, do hereby declare War on our Common Enemy, 'Waste' and ask for a volunteer army of 5300 shipyard employees, including all executives, supervisors, and all other workers in all departments, to enlist and be prepared to start battle against all avoidable waste at the beginning of working hours, Monday morning, December 5th."

25. RAILWAY ASSOCIATION REPORTS ON STANDARDIZATION. During the past five years, Division VI, of the American Railway Association, has coordinated the various methods and practices used, and arrived at standard, modern methods which have revolutionized the handling, storing and distribution of materials and supplies and effected great economy for the railroads, according to A. S. McKelligon, Chairman of the Division, in Railway Purchases and Stores who cites the following most important and fundamental accomplishments:

Standard Rules for Railroad Stores Department Operation, Standard Purchasing Practices, Reclamation of Material, Standard Scrap Classification, Stores Department Buildings and Facilities, Unit Piling and Method of Pricing Material, Disposition of Material Reaching Obsolescence, Uniform Method of Equipment Purchase Records, and Budget Control of Material.

26. ACTIVITIES OF COMMERCIAL STANDARDS GROUP.

Division of Simplified Practice.

INKS AND ADHESIVES - A preliminary meeting of manufacturers was held in New York on February 14. A simplified practice committee was appointed to develop a program for reduction in the line of inks and adhesives.

ADHESIVE PLASTER AND SURGICAL GAUZE - At a general conference held in New York on February 15th, recommendations for these commodities were approved. The industry will be circularized for acceptance.

PYROXYLIN COATED FABRICS - A preliminary meeting was held in New York on February 28, to consider the application of simplified practice to this industry.

FIRE ENGINES - Preliminary conference held in Cleveland, Ohio, January 25, under the auspices of the Fire Equipment Institute. Conference attended by representatives of the National Board of Fire Underwriters and the Division of Simplified Practice. Committee appointed to study simplification of fire engine capacities.

HACK SAW BLADES - Simplified Practice Committee of Hack Saw Manufacturers Association of America recommended a simplified list of sizes which was unanimously adopted at meeting held in New York on January 25. The manufacturers have requested the Division of Simplified Practice to call a general conference of the industry as early as possible. Conference invitations and agenda are being prepared and the latter approved by the manufacturers. General conference scheduled for the last week in March.

RUBBER SOLES AND HEELS - Reduction in variety of grades and qualities taken up at meeting of the Heel and Sole Division of the Rubber Association of America in New York on January 24. Herbert A. Derry appointed Chairman of Simplified Practice Committee.

ICE CAKES AND ICE CANS - Meeting of Simplified Practice Committee of refrigeration industries held in Detroit, Michigan on January 31, 1928 to consider completed surveys of demand for both items. Recommendation covering simplified list of sizes for both items formulated and submitted to National Association of Ice Industries, Refrigerating Machinery Association and Manufacturers of ice cans for approval. George B. Bright, President of the American Society of Refrigerating Engineers is Chairman of the Simplified Practice Committee, and suggests holding general conference in March.

REFRIGERATOR HANGER BOLTS AND SLEEVES - Simplified Practice Committee of refrigeration industries considered data on this item at their meeting on January 31. Survey not yet completed but expected to be finished during February.

CARTRIDGE FUSES - Meeting of Fuse Section of NEMA on January 26, representing 95 per cent of volume of business. Matter of simplification thoroughly discussed and will be acted upon between now and the next regular meeting of the Section.

AMERICAN MARINE STANDARDS COMMITTEE

Proposed standards were submitted to the subject Committee on "Joiner Hardware, etc.", covering rim locks and mortise locks for ship doors. The subject Committee on "Rules for Boilers and Pressure Tanks" held a meeting for further discussion of proposed standard rules for design and construction of marine boilers. Agreement was reached as to the form of proposed rules, leaving only a number of details to be adjusted by a special committee. At the same meeting the committee tentatively approved proposed standard specification for marine boiler steel plates subject to minor adjustments.

A proposed final draft of standard specification for metallic packing for condenser tubes was submitted to the Technical Committee on "Engineering Details".

Proposed standard specifications for propellers and instructions for making templates for propeller blade flanges and bolt holes were prepared and submitted to the Subject Committee on "Shafting, etc."

Considerable progress was made toward completion of proposed standards for:

- Pipe flanges
- Table glassware
- Scupper valves
- Final drafts of specifications for insulation of piping and machinery
- Final drafts of specifications for several types of hose
- Proposed standards for various types of door bolts.

Steps are in progress to organize a Subject Committee to study the possibility of standardizing watertight receptacles for use on shipboard to obtain interchangeability of various types on the market.

COMMERCIAL STANDARDS UNIT

WHITE BRONZE LAVATORY AND SHOWER-ROOM HARDWARE - Mr. J. Dean Vail, Vice President, Gardner-Vail, Inc., Chicago, volunteers the information that through the application of the principles of simplification and standardization, his company is now able to supply solid white bronze lavatory and shower-room hardware in direct competition with nickel-plated brass. This is a direct and permanent benefit to the user, as solid white bronze will withstand scouring and polishing indefinitely without change of color.

CLINICAL THERMOMETERS - At a preliminary conference held in New York on February 24, the manufacturers of clinical thermometers accepted a very stiff specification for these instruments and requested the services of the Bureau of Standards for the establishment of this specification as a commercial standard for the industry. A general conference is scheduled for March 30 in Washington, to which all those interested in clinical thermometers are invited.

PORCELAIN PLUMBING FIXTURES - A dimensional survey for porcelain plumbing fixtures has been completed and reports mailed to interested manufacturers. A conference will be held in Washington this month, and it is expected that a general conference will follow at an early date to establish a commercial standard for this commodity. Grading rules for this commodity dated January 16, 1928, accepted in writing by 100 per cent of the producers, have been distributed to 1200 wholesalers of plumbing goods throughout the United States. It is planned that these grading rules will also become a part of the forthcoming commercial standard

